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Fiscal Policy and Stabilization in Brazil

Celso Luiz Martone

The "heterodox shock" approach to stabilization is based on a flawed concept of inflation. The countries that entered this path are likely to remain for a long time under a controlled economy, sacrificing their growth potential for some stability in income distribution and less explosive inflation.

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The theoretical basis for the "heterodox shocks" recently implemented in Argentina and Brazil is that chronic inflation is essentially inertial — the product of staggered prices and wage adjustments. The underlying assumption is that the economic process is a cooperative game. Without legal and other forms of coercion, however, individuals tend to cheat — to fix their prices above average to start with.

The inertial hypothesis of inflation is a good description of the dynamics of inflation but it is *not* a theory of the nature of inflation — so the proposed remedy (the "heterodox shock") cannot be implemented successfully.

Moreover, applying that kind of shock destroys the spontaneous operation of the price system by suppressing the information content conveyed by prices and by distorting the allocation of resources.

Once a government engages in such an experiment, it is led to repeat it periodically to survive. The countries that entered this path are likely to remain for a long time under a controlled economy, sacrificing their growth potential on behalf of some stability in income distribution and less explosive inflation.

Eventually this "muddling through" policy may break down, precipitating hyperinflation and consequent structural changes — but this does not seem to be an imminent or even a necessary outcome.

A basic flaw of the "heterodox" stabilization programs was to assume that stabilizing the price level (through a general freeze) was a precondition for fiscal equilibrium and eventual fiscal reform — instead of the reverse. The fiscal austerity promised after stabilization was never accomplished — blocked by bureaucrats and special interest groups interested in maintaining the status quo. The challenge in these countries is to devise economic programs that could make long-term stabilization programs viable and politically acceptable.

In this sense, stabilization is less a technical economic problem than an intertemporal political problem of how to compensate the losers, on the one hand, and on the other hand to convince the majority that the trade-off between sacrificed current consumption and increased future consumption is worthwhile. The precarious political systems in these countries have been unable to deal with conflicts and support consistent long-term policies.

This paper is a background paper for the 1988 World Development Report. Copies are available free from the World Bank, 1818 H Street NW, Washington DC 20433. Please contact Lupita Mattheisen, room S13-067, extension 33757 (36 pages with charts and tables).

Fiscal Policy and Stabilization in Brazil

by
Celso Luiz Martone

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1. The Institutional Setting

Institutional disorder and legal permissiveness makes it difficult to define the public sector in Brazil in any precise way. Consequently, only approximate measures of the size of the public sector and of fiscal actions are possible. The lack of transparency in public accounts and actions is frequently put to political use; it is a convenient set up for the administration to accomodate conflicting groups and win political support without the close scrutiny of other special interests and of society as a whole. It is not accidental that no substantial progress in the organization and modernization of the public sector has been made. Fiscal reform in a broad sense would necessarily involve the partial dismantling of the network of privileges, preferential treatment, entitlements to income sources, transfers and the multitude of government actions that benefit special groups in society. This is the political dimension of fiscal policy that is usually overlooked in economic analyses of developing economies[1].

In a broad sense, the public sector comprises four branches: the central (federal) government, the monetary authority, the state-owned enterprises (both financial and non-financial), and the state and municipal governments (with their own microcosms of financial and non-financial enterprises). The interaction betweem these branches is complex, in the sense that the real direction of subordination and control is loose and informal, and the

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1. Lao's description of the "transfer state" captures the political economy aspect of fiscal policy in many developing countries. Cf. D. Lao, "The Political Economy of Economic Liberalization", The World Bank Economic Review, V.1, n. 2 (January, 1987).

penalties for transgressions usually non-existent. The best representation of the public sector is perhaps one in which different collusions of interests interact, the final outcome depending on the economic and political strength of each party. Planning and control have no real chance in such a system, so that the resulting fiscal actions are largely unpredictable, depending on the momentary needs of the system.

Table I is an attempt at identifying the types of fiscal actions taken by the public sector. It is clear from the Table that the modes of government intervention in the economy are divesified and pervasive, causing first order impacts on resource allocation, income distribution, macroeconomic balance, and capacity growth. In this institutional setting, it has been a mistake to concentrate economic analysis on the public sector deficit as a primary source of instability in the economy. The deficit is but one of the manifestations - perhaps not even the major one - of the deeper and broader problem of the hypertrophy of the State. The Keynesian vice of looking at the deficit as the measure of fiscal policy has distracted attention from the more fundamental issue of the organization, the functions, and the limits of the government.

In Brazil and in many other developing countries, the government makes the law and changes it according to its momentary needs to serve specific interests of social and economic groups that happen to be politically influential. Government actions, of course, are usually disguised under morally or economically undisputable motives such as social justice, national sovereignity, economic growth, maintenance of high employment, alleviation of poverty and so forth. The absense of solid legal and social institutions which could check the discretionary power of the government then leads to a kind of economic dictatorship of the groups that dominate the state bureaucracy and collude to improve their own interests at the expenses of society in general.

On the other hand, the intricate collection of laws, regulations, taxes, subsidies, market reserves, preferential treatment, and so on, designed to protect personal, sectoral or regional interests, distort the allocation of resources and reduce the overall productivity of the economy. As the more organized interests are those of the upper classes, it is likely that the whole system of policy produce a more concentrate personal income distribution than would be feasible in a more liberal system.

At the macroeconomic level, the economy has shown an acute instability in real income and the price level which can not be mainly attributed, as usual, to external or autonomous shocks, but result from the vagaries and the inconsistency of domestic economic policies, implemented in an institutional set-up which makes persistency and control impossible to accomplish.

The absence of predictable government behavior enforced by law and social sanction, together with the size and the variety of possible fiscal actions, has inhibited the organization of longer term financial and futures markets, given the prohibitive risks involved. Therefore, intertemporal linkages in the economy are thin and insufficient, probably producing a sub-optimal level of investment an lower than otherwise capacity growth. The amount of noise and uncertainty introduced by fiscal actions in the economy has not been sufficiently appreciated in macroeconomic analyses of Latin American countries.

In the case of Brazil, fiscal reform or at least fiscal discipline has been blocked by a tripartite collusion among ideologists of the state (socialists of various colors), the state bureaucracy, and private special interests. Despite a growing perception and conviction by society at large that a fiscal reform will be eventually required, any step in that direction has been frustrated by the organized and strategically located members of the collusion

Fiscal reform, however, is at the root of any permanent

effort at stabilization and long run structural reforms aiming at liberalizing and modernizing the economic system. A basic flaw of the recent "heterodox" stabilization programs in Latin America was to assume that stabilization of the price level (through a general freeze) was a pre-condition for fiscal equilibrium and an eventual fiscal reform and not vice-versa. Promises of future fiscal austerity were never accomplished after the stabilization, blocked by the groups interested in the permanence of the status quo. A major challenge in these countries is to devise economic programs that could make long term stabilization viable and politically acceptable. In this sense, stabilization is much less a technical economic problem than an intertemporal political problem of now to compensate the loosers, on the one hand, and how to convince the majority that the trade-off between sacrificed current consumption and increased future consumption is favorable, on the other hand. The precarious political systems in these countries have been incompetent to deal with conflicts and to support consistent long term economic policies.

The Structure of the Public Sector and the Nature of Fiscal Actions

BRANCH	TYPE OF FISCAL ACTION
Central Government	. Level and composition of expenditure . Changes in tax rates and tax base . Subsidies and transfers to private sector . Domestic and foreign government debt . Public investment programs . Loan guarantees to public and private sectors . Price and wage controls over private sector . Commercial policies . Regulations implying subsidies and/ or blocking access to markets
Monetary Authority	. Automatic financing of federal deficits . Loans to other segments of public sector . Selective credit . Loan guarantees . Management of domestic and foreign public debt . Exchange controls (multiple exchange rates)
Public Eterprises	. Current and capital transfers from Treasury . Investment and financing programs . Employment, wage and price policies Domestic arrears to private sector Selective credit (financial enterprises)
State and Local Governments	. Level and composition of expenditure . Transfers from central government . Investment and financing programs . Domestic and foreign debt . Domestic arrears to private sector and to Central Bank or federal banks.

2. The Public Sector Deficit

The public sector deficit has been a matter of conceptual and pratical controversy in Brazil, both due to the difficulty of defining the size of the public sector and to the effects of inflation and indexation on the public accounts. The best known concept, and the one we are going to use in most of this paper, is the Public Sector Borrowing Requirement (PSBR) referring to the non-financial public sector (all levels of government and state-owned enterprises). Due to the chronic and high inflation and to the formal indexation schemes, the inflation-adjusted or "operational" PSBR is the adequate concept to measure the impact of the deficit on the real sector of the economy (see section 3).

An alternative concept for the financing needs of the public sector has been produced by the Central Bank since 1981. It is the change in the net debt of the public sector (NDPS), which takes account of the changes in the net assets of the public sector against the private sector and the rest of the world.

The two concepts in fact measure different things and are usefull for different purposes. Table 1 summarizes the alternative measures as percentages of GDP for the period 1981-87. Both the nominal PSBR and the nominal change in the NDPS are dominated by inflationary effects operating through monetary correction and exchange rate devaluation on the debt/ assets. They are defective measures for analytical purposes, but not invalid policy targets. In fact, the setting of a nominal target for the financing of the public sector, as is usual in the stabilization programs inspired by the IMF, introduces a built-in stabilizer in the economy to the extent that the degree of fiscal stringency becomes a direct function of the rate of inflation. The two real or inflation-adjusted concepts of Table 1 have shown large discrepancies, stemming from the fact that, while the

operational PSBR takes out both monetary correction and exchange rate devaluation from the change in the nominal stocks, the real change in NDPS takes out the effective inflation rate from the change in the nominal stocks. Year to year discrepancies between monetary correction and/ or exchange rate devaluation and inflation produce different movements in the two concepts. The years 1983 and 1986 provide opposite examples of the differences in measurement. In 1983 there was a 30% real devaluation, while in 1986 there was a 15% real appreciation of the exchange rate. In 1983 monetary correction was close to inflation, while in 1986 the government "de-indexed" the financial assets, obtaining a capital gain on its outstanding debt. As a consequence, the operational PSBR was much smaller than the real NDPS in 1983 and higher in 1986. From an economic point of view, the eventual capital gains and losses on the public debt should be included, to the extent that they alleviate or aggravate future potential deficits. This makes the real NDPS a better concept than the operational PSBR as a long term measure of the deficit.

The difficulty with the NDPS concept, as it is measured in Brazil, derives from the equal treatment given to assets and liabilities of the public sector. The assets of the public sector are basically domestic credit advanced by the Central Bank to the financial sector (here included Banco do Brasil and the commercial banks owned by the state governments). These credits refer mostly to subsidized credit programs of the Federal government administered by Banco do Brasil and to financial assistance to state-owned banks. It is at least doubtful whether these credits are fully recoverable or a substantial discount should be imposed on them. The nominal and real NDPS are presented in Tables 2 and 3 for the period 1981-87.

The methodological base for the real NDPS concept derives from the consolidation of the non-financial public sector with the Central Bank, producing the following equation:

$$D = (B - pB) + H + (C - pC) + E(B^* + (e-p)B^*) - E(R^* + (e-p)R^*) \quad (1)$$

where D is the deficit, B is the stock of domestic debt, H is the monetary base, C is net domestic credit of the financial system to the public sector, E is the exchange rate, B* is the stock of foreign public debt, R* is the stock of international reserves, p is the rate of inflation, and e is the rate of exchange rate devaluation

Domestic financing can take the form of government securities, money creation or net bank credit to the public sector, while external financing can be an expansion of the foreign public debt or a run-down of foreign exchange reserves. Looking at Table 2 we see that the average proportion of the net domestic debt has remained around 40% in the period, despite sharp changes in international financial market conditions after 1982. The reasons for that are, first, that Brazil received new money in 1983 and 1984, and, second, that at the margin there was a transfer of foreign debt from the private to the public sector in the period. In 1981, the public sector was responsible for 62% of the foreign debt, while in 1987 this proportion increased to 75%. This transfer represented an external source of finance, despite the fact that no new money was available in 1985 and 1986. An additional reason for the constancy of the shares was the loss of international reserves in 1985/ 1986.

The proportion between money and domestic debt financing, on the other hand, has varied wildly in the period. Using Table 2 and the IGP-DI as the deflator for the domestic debt, the proportion of money financing in total domestic financing was 48%, 42%, 61%, 65%, 196%, and 51% for the period 1982-87. The data show an upward trend in money financing, culminating in the strong domestic debt monetization of 1986 with the Cruzado Plan. The above proportions, however, conceal the fact that there has been continuous small confiscations of the domestic public debt in the 80's, produced by rates of monetary correction short of the effective inflation rates. If we take 1981 as a basis, the ORTN had lost about half of its real value by the end of 1987. Both the shift to money financing and the small debt

confiscations of the recent years may be at the root of the upward trend in the rate of inflation in Brazil, to the extent that they reveal to economic agents a basic intertemporal inconsistency in the financial structure of the public sector.

"Above the line" estimates of the public sector deficit in Brazil are not available. There are only partial estimates for the deficit of the Federal government and of the state enterprises. The estimates of Table 4 below are to be taken cautiously, because some items were obtained indirectly, as explained in the Table. The decomposition of the operational PSBR obeys the following equation:

$$D = S + (r-p)B + E(r^{*}+e-p)B^{*} + Ig + T \qquad (2)$$

where r is the nominal domestic interest rate and r* is the dollar interest rate.

The deficit is seen as the sum of the basic balance (S), or the balance between tax and other revenues and public sector consumption, domestic and foreign debt service, gross capital expenditures Ig, and current transfers (for social security and subsidies) T.

The domestic debt service has shown an upward trend in the period, both due to the continuous capitalization of very high real interest rates and to the financing of other public expenditure. The sharp fall in the domestic debt service in 1986 was the result of the already mentioned monetization of the domestic debt after the Cruzado Plan, the peg of the nominal interest rate below the effective rate of inflation for most of the year, and the depreciation imposed on the real value of the debt due to the "de-indexation" of the financial system. The foreign debt service has shown a downward trend since 1984, despite the increasing share of the public sector in the foreign debt, due to the fall in the international interest rates. The total debt service of the public sector increased from 1981 to 1985, and was sharply reduced in 1986 and 1987. However, this fall should not be expected to be maintained in the future for

two reasons. First, because the downward trend in the dollar interest rates reverted by the end of 1987. Second, because the strong monetization of the domestic public debt was probably a once-and-for-all frustrated experiment. The available data for the first semester of 1988 show a sharp escalation of the real value of the domestic debt, as will be seen in the following section.

The basic reason for concern about the debt trends in Brazil, however, is the fact that no significant effort has been made to correct budget imbalances of the public sector. On the contrary, the non-financial surplus of the public sector has fallen since 1985, as Table 5 shows. Unfortunately, no estimates for the structural (or full-employment) deficit are available. In spite of that, it is a valid hypothesis that the structural deficit has been rising sharply since 1985. Several indications support the hypothesis. In the first place, the real expenditures of the Federal government increased 10% in 1985, 69% in 1986, and fell 14% in 1987, while the real revenues increased only 12% per year in the same period. As the debt service remained constant in 1985 and fell in 1986-87, and the public capital expenditures were nearly constant, the fall in the non-financial deficit should be attributed to a sharp increase in public sector consumption in the period. The data therefore provide strong evidence of a pro-cyclical fiscal policy in 1985 and particularly in 1986. The consumption boom of 1985-86, when the economy grew more than 8% a year, should be mainly explained by the vigourous fiscal stimulus produced by the government.

On the other hand, the real prices of publicly produced goods and services maintained their long run downward trend in 1985-86, showing a partial recovery in 1987. Table 6 presents the real price indices of selected goods and services produced by the state enterprises for 1970 and 1980-87[2]. The pricing policy for

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2. See R.F. Werneck, "Public Sector Adjustment to External Shocks and Domestic Pressures: 1970-85", Discussion Paper 163, PUC, Rio de Janeiro, June 1987.

these goods and services has oscillated between the short-run objective to alleviate inflationary pressures in the economy and the intention to improve the real incomes of the lower classes (the "social" tariff) In any case, this policy, reinforced in 1985-86, has produced devastating effects on the financial structure of most public enterprises and contributed to the overall deficit of the public sector.

The outlook of the deficit for 1988 and beyond is highly pessimistic. On the one hand, the stagnation of the economy after 1986 reduced public revenues and has created political pressures for a further increase in government real spending. On the other hand, strong inflationary pressures may inhibit necessary real corrections of public prices. Finally, the rapid "demonetization" of 1987, as inflation resumed, has forced a large increase in the domestic public debt and in real interest rates, increasing the burden of the debt for the future.

3. Fiscal Policy and the External Sector

The size and the extension of the public sector in Brazil would make one suppose that fiscal policy in a broad sense has a decisive influence on the overall balance of the economy and consequently on the current account of the balance of payments. The evidence has supported this hypothesis. Fiscal policy decisions in response to autonomous shocks, as in the 70's and early 80's or to domestic political pressures, as in 1985-87, have dramatically changed the current account position. Table 7

decomposes the domestic resource gap into the public sector deficit, measured by the operational PSBR, and the private sector resource balance, obtained as a residual, for the period 1981-87. The Table also shows the composition of the current account balance in terms of net imports of goods an non-factor services, interest payments, and other factor income.

A persistent characteristic of the economy revealed in the Table has been the negative resource balance of the private sector, resulting from a complex crowding-out process in the financial markets to allow the financing of the public sector deficit. The shift of the public sector from foreign to domestic financing after 1982, together with the incapacity to reduce its deficits on a permanent basis, has increasingly required the net use of private savings. As the decomposition makes clear, the public sector has been faced with two distinct difficulties: a transfer problem and a transformation problem. The general transfer problem consists of the need to generate net exports of goods and non-factor services of around 3% of GDP each year in order to serve the foreign debt and equilibrate the current account, since the net capital inflow has been almost zero. This in turn implies that domestic expenditure be 3% short of domestic income. Various different policy mixes can accomplish that objective. On the other hand, a tranformation problem arises to the extent that the public sector owes 80% of the foreign debt and the private sector produces most of the foreign exchange necessary for the debt service. Again, there are a variety of means to effect the transfer of foreign currency from the private to the public sector. The macroeconomic behavior of the economy in the 80's can probably be explained by the specific ways in which these two problems have been dealt with by economic policies.

Brazil was successful in effecting the resource transfer in 1984-85 through a policy mix based on monetary and fiscal restraint at first (1981-82), and on an aggressive exchange rate policy thereatfer (1983-84). These policies were reversed in the second half of 1985 and particularly in 1986. The fiscal

expansion started in 1985, followed by a wild monetary expansion in 1986, and by a real appreciation of the exchange rate, have been decisive in simultaneously producing a consumption boom, a break-down in the current account, and a hyperinflation. This experience has revealed a series of primitive policy mistakes only understandable in the confuse and conflicting political environment that has prevailed since 1985.

An interesting evidence of the effect of fiscal policy on the current account is provided by Figure 1, where the net exports of goods an non-factor services (NEX) are correlated to the public sector non-financial deficit (DEF). The overall debt service has been neglected, since it represents a contractual obligation not responsible to fiscal actions in the short-run. There is a clear correlation between the intensity of the fiscal correction of 1983-84 (and of the fiscal expansion of 1985-87) and the size of the NEX variable. The year to year correlation is not higher because there are probably lags in the response to fiscal policy. A moving average or some other smoothing procedure can not be applied, however, given the small size of the sample.

On the other hand, it can be said that Brazil has not yet found an efficient way to deal with the transformation problem of the public sector. The problem has been further aggravated by the continuous transfer of the foreign debt from the private to the public sector, consequent on the successive debt renegociations after 1982, and by the general and profound disorganization and lack of control of the public sector itself. By the end of 1987, the foreign debt of the public sector was US$ 90.7 billion, of which 57% was owed by the central government (Federal government and Central Bank), 37% by the public enterprises, and 6% by the state and municipal governments. A first problem arising from this distribution is that some state enterprises and most state and municipal governments fail to serve their debt for several reasons: price controls over public goods and services, incapacity to generate operational surpluses, excess indebtedness caused by malinvestments, low productivity, political opportunism, and so on. Several internal transfer mechanisms have

been established in the public sector in order to cope with the ocasional or systematic defaults, usually implying the assumption of the burden by the Central Bank, which has accumulated large credits of improbable recuperation against other segments of the public sector.

Different alternatives have been proposed to solve this problem and give a better chance to the Central Bank to follow a more independent monetary policy. One alternative is to make the consumer pay for the debt service, through higher real prices in the ase of public goods and services. In some cases, however, this may be impossible (an urban sub-way system or an expressway, for instance), or not optimal on efficiency grounds, as in the case of malinvestments, low productivity or fictitious debt (debt contracted for balance of payments reasons and not effectively used by the enterprise). A second alternative is to consolidate the excess debt in the central government, serving it by a general and proportional income tax surcharge. A third way consists of establishing a fund of compulsory savings to capitalize the state enterprises, tne return on which would depend on their future profit prospects. No one of these or other alternatives have been worked out so far, with the consequence that an important additional pressure is put on the monetary or debt policy of the Central Bank.

Besides the financial and cash transfers inside the public sector, usually involving the Central Bank as a lender of last resort, a more substantive problem from a macroeconomic point of view is the mechanism by which the public sector "buys" foreign exchange or, in other words, how the public sector finances its foreign debt service. This problem can not be divorced from the overall financing of the public sector, and they will be treated together.

An increase in the non-financial surplus of the public sector could be brought about by one or more of the following means: increase in the tax burden, expenditure cuts, and sale of assets. Attempts at increasing taxes at the margin (not through a real tax reform) have been frustrated by the offseting response

of the private sector, either increasing tax evasion or submerging into the underground economy. The tax base does not seem to be independent of the tax rates, but to change inversely with it. Expenditure cuts have been blocked by a coallision of bureaucratic, political and private interests (in the case of subsidies). Sales of government assets and privatization have faced the same obstacles as expenditures cuts. The non-traditicnal means of reducing the public debt (both domestic and foreign) through schemes of debt conversion have attracted some attention, but no important steps have been taken so far.

Therefore, the government has relied basically on money and debt financing, complemented by small debt confiscations from time to time. Table 8 presents the composition of the financial assets in Brazil, separated into liabilities of the governments and of government-owned financial agencies, and liabilities of private financial institutions. The public sector participation of more than 4/5 in the total assets is in fact underestimated, to the extent that the 53% required reserve rate on demand deposits is left out. Also the classification of savings deposits as a private liability is only formal, because of the long run insolvency of the National Housing System. In any case, it is clear that the largest part of private savings is channelled through the public financial institutions. Part of that goes to the financing of the public sector itself, and part is lent to the private sector, mostly in the form of selective credit programs.

Due to the massive presence of the public sector in the financial markets, the instability of the rules of the game regarding financial assets and operations, the high and unstable rate of inflation, and the previous experiences with debt confiscations, the private sector has developed several protective schemes, largely based on the shortening of maturities of the financial instruments or, in the case of government securities, based on the "tailoring" of maturities. It can be safely said that presently the totality of financial assets have maturities shorter than 60 days, 80% shorter than 30 days, and

50% shorter than 24 hours. The outstanding government securities are in fact transformed in a kind of indexed money, in the sense that they are used as backing for over-night deposits earning approximately the rate of inflation.

An important implication of these developments and financial innovations for monetary policy is that of making the monetary base largely endogenous. Besides the traditional source of monetary endogeneity in an open economy linked to balance of payments flows, two additional mechanisms exist in Brazil. The first one operates through the secondary market for government securities. As these securities serve as backing for over-night depos 's (formally by 24 hour repurchase agreements), any shift between money and indexed money or other financial assets in the portfolio of the private sector produces an equivalent shift in the composition of the outstanding government debt (high-powered money and securites), through the open-market operations of the Central Bank The second linkage comes through the savings deposits, which pay a fixed interest rate above monetary correction. Depending on the difference between market rates and that fixed rate, financial resources flow in or out of savings deposits, requiring the intervention of the Central Bank as the lender of last resort to that segment of the financial market, either providing liquidity of absorbing excess liquidity. The enormous mass of liquid assets in the economy can produce large and instantaneous shifts in portfolios in response to market conditions or to short-term expectations, and therefore may become a source of financial and monetary instability. The current structure of the Brazilian financial system has put a tight constraint on the use of the traditional policy instruments, in particular those of monetary policy.

The Brazilian exchange rate policy, except for two fancy experiments in 1980 and in 1986, has been quite stable by Latin-American standards, and has roughly maintained the competitiveness of the export sector. The general rule has been daily devaluations according to the domestic rate of inflation, measured by some standard price index (See Table 9). The

experiment of 1980 consisted of the announcement (six months in advance) of the rate of devaluation. This Argentine style experiment, the purpose of which was to influence inflationary expectations, produced a large real appreciation, corrected in February, 1983 by a 30% devaluation. The experiment of 1986 came in the wake of the Cruzado Plan, when the exchange rate was frozen for nine months, again producing a real appreciation that has not yet been corrected.[3]

The exchange rate policy has traditionaly oscillated between two conflicting objectives: to maintain the competitiveness of the export sector and to dampen domestic inflationary pressures The trade-off between these two policy objectives can become quite unfavorable in an indexed economy. A real depreciation can only be brought about and sustained at the cost of an acceleration in the rate of inflation to a new higher level, to the extent that the depreciation transmits to the different cathegories of incomes through the increase in tradeable goods prices. A simple evidence of the trade-off is given in Figure 2, where the annual rate of inflation is correlated to the level of the real exchange rate for the period 1975-87 (the coefficient of determination of the regression is 88% excluding the year 1987).

In more recent years, an additional constraint has existed on the exchange rate policy, given by the impact of a real depreciation on the foreign debt of the public sector. A 10% real depreciation produces a capital loss to the public sector of 3% of GDP, and an annual real increase in its foreign debt service of around 0.25% of GDP at current world interest rates.

The general conclusion that arises form this analysis is that the traditional instruments of economic policy in Brazil, for different reasons, have lost their efficacy in managing the economy and in contributing to a reasonable macroeconomic

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3. cf. C.L. Martone and C.A.P. Braga, "Brazil and the Uruguay Round", Conference on The Multilateral Trade Negotiations and the Developing Countries. The Rockefeller Foundation Washington, D.C., September, 1988.

stability. It seems that the time has come for institutional reforms that could rescue the economic policy from the present deadlock, and permit a better macroeconomic performance.

4. Fiscal Policy and Stabilization

It is clear at this point of the analysis that stabilization programs applied within the present Brazilian institutional setting are likely to fail for at least two reasons. First, the scope for the management of the traditional policy instruments is too restricted, and second because private agents know that and therefore have no reason to change their inflationary expectations. Of course any stabilization program can be more or less competently designed and implemented, and that can make a difference in its duration and degree of failure (the situation after the Plan is abandoned can be the same or worse).

Looked at from the above point of view, the two recent stabilization plans in Brazil (the Cruzado Plan of February, 1986 and the Bresser than of June, 1987) could not have succeded. More than that, however, ther have led to a much worse situation than the one they attempted to correct, because of poor design and incompetent implementation.

The key theoretical issues of a stabilization program applied to a chronic and moderate inflation (three-digit "only"), contrary to an open hyperinflation, are the nature and dynamics of the inflation process. The theoretical basis for the so-called "heterodox shocks" recently implemented in Argentina and Brazil is that chronic inflation is essentially inertial, being produced

by staggered prices and wage adjustments. Assume an inflationary economy in which the price of each good, service and asset (except money) adjust at a definite interval, and there is a continuum of such intervals. If this economy does not suffer any supply or demand shock, it will converge to a steady state situation in which the rate of inflation will be constant, the average relative prices (over the period of adjustment) will be in equilibrium, real output will be constant, and the average functional shares in total income will be invariant. The only problem with inflation, in this case, is the social cost associated with a sub-optimal allocation of resources: individuals use less money than they would under price stability and the financial sector uses too much real resources. In any other aspect, inflation is neutral. That is the best case one can make for the inertial hypothesis of inflation.

In such an economy, the government is generating a budget deficit and financing it by printing money to the extent necessary to sustain the current rate of inflation. Money is passive, in the sense that, if the rate of inflation eventually rises as a consequence of autonomous supply or demand shocks, the government will adjust the rate of money creation automatically.

The relevant variable for any economic agent is, in this case, his average price or his average real income (over his period of price adjustment). If it were possible to convince the economic agents at a point in time to convert their prices to their average over the longest period of adjustment prevailing in the economy and to keep them constant thereafter, inflation would terminate instantaneoulsy and the stabilization would be neutral with respect to relative prices and income shares. The inflationary memory of the economy would be eliminated in the sense that past changes in the price level would be irrelevant for current and future decisions. Inflationary inertia would completely disappear. On its turn, the government would assume the compromise to keep the money supply constant after the stabilization by eliminating any residual budget deficit or financing it entirely by issuing bonds. A once-and-for-all

increase in the quantity of money would be necessary to meet the higher real demand after the stabilization, in order to avoid a temporary deflation.

Is there anything theoretically wrong with the above model of inertial inflation besides its obvious practical or real world difficulties? The error consists of considering the economic process as a cooperative game, in which each individual will voluntarily respect the rule of the game in order to accomplish the overall result. Unfortunately perhaps, that is an idealistic vision of the world and of the social and economic processes. Except for legal or other kinds of coertion, each individual will have an incentive to cheat, by fixing his price above the average to start with. That is why a general price freeze enforced by some government authority is found necessary to produce stabilization. The price freeze, however, implies that relative prices will be set at "wrong" levels at a point in time, and that the inflationary memory of the economy can not be washed out. The program then eventually fails, to the extent that the individuals succeed in setting their relative prices where they would be without the freeze. The failure of such a program, therefore, is a necessary consequence of its flawed vision of the world. It is a question of practical details the extent of the failure and its economic consequences.

Besides the theoretical objection to the basis of the "heterodox shock", the design of the Cruzado and Bresser Plans suffered from additional conceptual mistakes and omissions, of which the most important were:

(i) No compromise to eliminate any residual deficit was assumed by the government. It turned out soon after the Plan that the deficit was not only high but rising.

(ii) Nothing was done to change the structure of the Central Bank, either by making it legally independent of the government, or by prohibiting it from financing the public sector.

(iii) Inflation was accelerating at the moment of the freeze, meaning that relative prices were adjusting. The choice of

the D-day was dictated by dispair rather than reason, magnifying the relative price distortions in the economy.

(iv) In case of the Cruzado Plan, there was a complete de-indexation of the exchange rate, the fiscal system, the financial markets, and of contracts in general, at the same time that an over-indexation of wages was introduced through an escalator clause with a trigger at 20% of accumulated inflation. This was done on top of a 8% real wage increase at the start of the Plan. The trigger turned out to be a constraint on the management of aggregate demand and retarded necessary price adjustments. It was clear at the start, thus, that the economy would only reach a new inflationary equilibrium with a monthly rate of inflation of at least 20%, as in fact happened in the first semester of 1987. In case of the Bresser Plan, the indexation system remained, but a lagged wage indexation was introduced, which alterwards set the pace for the rate of inflation.

The implementation of economic policy in the period February 86 - January 88 (covering the two stabilization program) was even worsr than its conception.

The fiscal expansion produced by increasing government consumption, huge credit subsidies (to the extent that the nominal interest rate on selective credit programs was kept fixed at 10% per year), and lagged real prices of public goods and services during 1986, in a situtation of near full-employment and full capacity use, led to the run-down of inventories in the first semester of the year, and the run-down of foreign exchange reserves in the second semester.

The price freeze February 1986, because of promises of zero inflation and the fear of the effects of the wage trigger, was sustained too long (up to November 15, the date of general elections), so that an automatic mechanism to reduce aggregate demand (price level increase) was locked. In the second half of the year, general rationing prevailed in the goods markets,

generating a potential inflationary surge that materialized in 1987. (See Figure 3).

Immediately after the deflagration of the Cruzado Plan, the Central Bank engaged in a large monetization of the public debt, partly to reduce its interest burden, partly to keep nominal interest rates at the same level of real rates before the Plan (under the assumption of a zero rate of inflation), and partly to provide for the increase in the real demand for money consequent of the stabilization. The guide of monetary policy during this period was the nominal interest rate. The Central Bank pegged the rate, creating whatever amount of money was necessary. The bahavior of real financial assets and money in the critical turning points associated with the Plan is presented in Table 10. The real quantity of money increased 216% between January, and October 1986, and fell 61% between October, 1986 and June, 1987, as the inflation process resumed. The behavior of monetary policy had an important contribution in stimulating aggregate demand and creating a repressed inflation in the economy.

After two succesive months with rates of inflation above 26% per month, the government precipitated a new price freeze, known as the Bresser Plan (June 1987). Although the new program succeded in reversing the rate of inflation temporarily, it was not followed by any supporting fiscal and monetary measures. The result has, been a rapid reinflation to a level above the one prevailing before the Plan (See Figure 3).

The Brazilian recent experiences of stabilization, although not yet completed, has taught some important lessons. First of all, it has shown that the inertial hypothesis of inflation is a good description of the dynamics of inflation, but is <u>not</u> a theory on the nature of inflation. The proposed remedy (the "heterodox shock") consequently can not be successfully implemented. Second, the attempted application of that kind of shock destroys the spontaneous operation of the price system by suppressing the information content conveyed by prices and disarticulates the production process and the allocation of

resources. The social cost of so doing may be prohibitive in the long run, but the political cost of a return to a market economy may be predominant in the short run. Therefore, once a government engages in such an experiment, it is led to repeat it periodically in order to survive. The countries that entered this path are likely to remain for a long time under a controlled economy, sacrificing their growth potential on behalf of some stability in the income distribution and a less explosive inflation path. Eventually this "muddling-through" policy may break down, precipitating a hyperinflation and the consequent structural changes, but this does not seem to be an imminent or even a necessary outcome.[4]

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4. At the moment this paper was revised for publication (February, 1989) a new stabilization program was underway (the Summer Plan of January, 1989), based on a general price freeze and the de-indexation of the economy. Its fate does not look different from the previous ones.

TABLE 1
BRAZIL: ALTERNATIVE MEASURES OF PUBLIC SECTOR BORROWING REQUIREMENTS
(PER CENT OF GDP)

	PSBR(1)		NDPS(2)	
	Nominal	Operational	Nominal	Real
1981	12.5	5.2	-	-
1982	15.8	7.0	27.7	7.1
1983	18.6	3.5	61.8	9.3
1984	23.8	2.7	60.8	4.2
1985	27.9	4.3	64.1	4.9
1986	10.8	3.5	21.2	1.6
1987	29 5	5.5	75.2	3.7

Source: Central Bank of Brazil: Brazil Economic Program and Monthly Bulletin.

(1) Refers to the IMF concept for the non-financial public sector. The "operational" deficit excludes monetary correction and devaluation of exchange rate from the public debt.

(2) Computed on the basis of Table 1. The "real" change in the Net Debt of the Public sector refers to the deflated (by IGP-DI) change in all items of debt (except the monetary base), plus the change in the monetary base.

TABLE 2
BRAZIL: NET DEBT OF THE PUBLIC SECTOR[a]
(positions in December)
Cz$ billion

	1981	1982	1983	1984	1985	1986	1987
1. Total Public Debt	8.5	21.8	94.8	330.5	1231.4	2013.1	11634.9
2. Domestic Public Debt	3.8	9.7	34.1	130 8	501.5	823.2	5112.0
2.1. Government Securities	2.4	5.2	16.4	69.2	293.7	410.8	2691.5
Federal	2.0	4.2	13.7	60.7	260.2	349.4	2292.6
State and Municipal	0.4	1.0	2.7	8.5	33.5	61.4	398.9
2.2. Monetary Base	1.0	2.0	3.5	12.7	45.5	178.9	503.5
2.3. Net Debt to Financial Sector	0.4	2.5	14.2	48.9	162.3	233.5	1917.0
Non-Financial Public Sector[b]	2.5	7.0	23.7	77.4	300.7	541.1	2508.2
Central Bank[c]	(2.1)	(4.5)	(9.5)	(28.5)	(138.4)	(307.6)	(591.2)
3. Foreign Public Debt	4.7	12.1	60.7	199.7	729.9	1189.9	6522.9
3.1. Federal Government and Central Bank	0.7	2.4	19.2	83.5	284.7	572.2	4235.6
3.2. State and Municipal Government and Public Enterprises	4.3	9.4	38.6	133.8	503.6	673.0	2790.6
3.3. Deposits in Foreign Currency[d]	0.6	1.2	6.8	18.4	51.0	45.2	--
3.4. International Reserves	(0.9)	(0.9)	(3.9)	(36.0)	(109.4)	(100.5)	(503.3)

Source: Central Bank, Brazil, Economic Program, several issues.
(a) Defined as the non-financial public sector plus the Central Bank.
(b) Includes arrears to contractors and suppliers.
(c) Net domestic credit to financial system (inclusive of Banco do Brasil).
(d) Private sector deposits only.

TABLE 3
BRAZIL: NET DEBT OF THE PUBLIC SECTOR[a]
(positions in December)
Cz$ billion of 1984

	1981	1982	1983	1984	1985	1986	1987
1. Total Public Debt	171.0	219.6	306.9	330.5	367.5	364.0	407.8
2. Domestic Public Debt	76.5	97.7	110.4	130.8	149.7	148.8	179.2
2.1. Government Securities	48.3	52.4	53.1	69.2	87.6	74.3	94.4
Federal	40.2	42.3	44.4	60.7	77.6	63.2	80.4
State and Municipal	8.0	10.1	8.7	8.5	10.0	11.1	14.0
2.2. Monetary Base	20.1	20.1	11.3	12.7	13.6	32.3	17.7
2.3. Net Debt to Financial Sector	8.1	25.2	46.0	48.9	48.4	42.4	67.2
Non-Financial Public Sector	50.3	70.5	76.7	77.4	89.7	97.8	87.9
Central Bank	(42.2)	(45.3)	(30.7)	(28.5)	(41.3)	(55.6)	20.7
3. Foreign Public Debt	94.5	121.9	196.5	199.7	217.8	215.2	228.6
3.1. Federal Government and Central Bank	14.1	24.2	62.2	83.5	85.0	103.5	148.5
3.2. State and Municipal Government and Public Enterprises	86.4	94.7	125.0	133.8	150.3	121.7	97.8
3.3. Deposits in Foreign Currency	12.1	12.1	22.0	18.4	15.2	8.2	--
3.4. International Reserves	(18.1)	(9.1)	(12.6)	(36.0)	(32.7)	(18.2)	(17.6)

Sources and criteria: see Table 2.
(a) Deflated by the IGP-DI of the Fundação Getúlio Vargas.

TABLE 4
BRAZIL: COMPOSITION OF THE PUBLIC SECTOR DEFICIT
(PER CENT OF GDP)

Years	Operational PSBR (1)	Basic Balance (Surplus) (2)	Domestic Debt Service (3)	Foreign Debt Service (4)	Gross Fixed Capital Formation (5)	Domestic Transfers (6)
1981	5.20	-16.91	1.50	2.08	7.64	10.89
1982	7.00	-16.85	2.37	2.49	7.53	11.46
1983	3.50	-19.11	3.06	3.22	5.49	10.84
1984	2.70	-18.19	3.30	3.14	5.20	9.25
1985	4.30	-16.12	3.44	2.97	5.43	8.58
1986	3.50	-15.27	2.23	2.51	5.0	9.03
1987	5.50	-12.17	2.17	2.10	5.0	8.40

Notes:
col.(2): Obtained as residual.
col.(3): The cost (above monetary correction) of the Federal debt in securities given by the the central Bank. The cost of the net debt to financial sector estimated on the basis of average CD rates in the market (30.9, 27.4, 24.3, 23.8, 23.1, 14.0%, and 15% per year for the years 1981-87).
col.(4): Estimated applying the share of the public sector in the total foreign debt on the annual interest cost, minus the interest earned on international reserves, assumed to be 3% below the average cost of debt.
col.(5): Taken from Werneck (1987), Table 3G, page 47, complemented by National Income Accounts. Estimates for 1986-87.
col.(6): National Income Accounts (includes social security and subsidies).

TABLE 5
BRAZIL: PUBLIC SECTOR NON-FINANCIAL DEFICIT
(per cent of GDP)

Years	Operational PSBR (1)	Public Sector Debt Service (2)	Public Sector Non-Fin. Deficit (3) = (1) - (2)
1981	5.20	3.58	1.62
1982	7.00	4.86	2.14
1983	3.50	6.28	-2.78
1984	2.70	6.44	-3.74
1985	4.30	6.41	-2.11
1986	3.50	4.74	-1.24
1987	5.50	4.27	1.23

Source: Table 4.

TABLE 6
BRAZIL: REAL PRICE INDICES OF PUBLICLY PRODUCED GOODS AND SERVICES
(1980=100)

Years	Electricity	Telecommunications	Flat Steel	Postal Services	Gasoline	Diesel Oil	Fuel Oil	Liquid Gas
1970	124	-	141	28	30	53	31	114
1980	100	100	100	100	100	100	100	100
1981	104	90	109	103	99	119	141	98
1982	98	82	108	108	88	119	126	90
1983	95	68	96	78	81	121	136	99
1984	79	59	103	57	77	122	142	105
1985	80	48	105	69	67	108	132	91
1986	76	50	69	76	73	74	88	61
1987	92	44	70	85	60	81	100	76

Sources: Werneck (1987), page 45 for 1970-85, and Central Bank of Brazil, Brazil Economic Program, for 1986-87.

TABLE 7
BRAZIL: COMPOSITION OF THE DOMESTIC RESOURCE GAP
(per cent of GDP)

Years	Net Imports of G & NFS (1)	Net Interest Payments: Public Sector (2)	Net Interest Payments: Private Sector (3)	Net Interest Payments: Total (4)	Other Factor Income (5)	Current Account Deficit (6)	Operational PSBR (7)	Private Sector Balance (8)
1981	0.40	2.08	1.79	3.87	0.14	4.41	5.20	-0.79
1982	-1.05	2.49	1.75	4.24	0.22	3.41	7.00	-3.59
1983	-1.97	3.22	1.45	4.67	0.37	3.07	3.50	-0.43
1984	-5.36	3.14	1.68	4.82	0.38	-0.16	2.70	-2.86
1985	-4.79	2.97	1.29	4.26	0.47	-0.06	4.30	-4.36
1986	-2.29	2.51	0.84	3.35	0.46	1.52	3.50	-1.98
1987	-2.71	2.10	0.42	2.52	0.28	-0.09	5.50	-5.59

Note: Column (8) obtained as a residual.
Source: Balance of payments statistics and Table 4.

TABLE 8
BRAZIL: COMPOSITION OF THE FINANCIAL ASSETS
(December, 1987)

	Public Sector Liability		Private Sector Liability	
	Cz$ billion	%	Cz$ billion	%
Currency	271.6	-	--	--
Demand Deposits	370.7	47.1	416.9	52.9
Time Deposits	241.7	27.7	719.4	72.3
Savings Deposits	1239.5	60.1	822.4	39.9
Government Securities	9006.4	100.0	--	--
Exchange Bills	--	--	72.5	100.0
Total Assets	11129.9	84.6	2031.2	15.4

Source: Central Bank Bulletin.

TABLE 9
BRAZIL: REAL EXCHANGE RATE INDICES
(1975=100)

Years	RER/ USA (1)	REER (2)	IPE (3)
1975	100.0	100.0	100.0
1976	95 6	96 5	102.0
1977	95.3	97.0	105.0
1978	95.1	102.5	106.2
1979	102.4	113.0	117.3
1980	110.3	121.9	107.5
1981	102.2	101.5	101.2
1982	104.6	96.5	101.1
1983	126.9	115.5	110.6
1984	123.7	108.6	98.9
1985	125.9	109.4	94.5
1986	112.2	113.0	97.6
1987	111.7	116.1	100.3

Sources: Martone and Braga, op.cit., Table II, and INPES/IPEA
Notes: Col. (1): Real exchange rate (Cz$/ US$) based on wholesale price indices.
Col (2): Real effective exchange rate Countries and weights considered were: USA (41.5%), W. Germany (14.6%), Japan (11.3%), Argentina (7.1%), Italy (7.2%), Netherlands (6.8%), France (5.7%), and UK (5.7%).
Col. (3): Index of profitability of exports (REER corrected by export subsidies).

TABLE 10
BRAZIL: EVOLUTION OF THE FINANCIAL ASSETS

	January, 1986		October, 1986		June, 1987		October, 1988	
	Real Value (1)	% Share (2)	Real Value (3)	% Share (4)	Real Value (5)	% Share (6)	Real Value (7)	% Share (8)
1. Money (M)	100	11.3	316	27.3	123	13.5	73	8.3
2. Financial Assets	100	88.7	107	72.7	100	86.5	78	91.7
Savings Deposits	100	29.2	96	21.4	107	30.7	113	33.5
Time Deposits	100	18.6	147	21.0	93	16.9	68	12.8
Exchange Bills	100	4.0	102	3.1	31	1.2	13	0.5
Government Securities	100	36.9	96	27.2	104	37.6	121	44.9
3. Total Assets	100	100.0	131	100.0	102	100.0	99	100.0

Source: Central Bank Bulletin.

FIGURE 1
FISCAL POLICY AND THE CURRENT ACCOUNT
(PER CENT OF GDP)

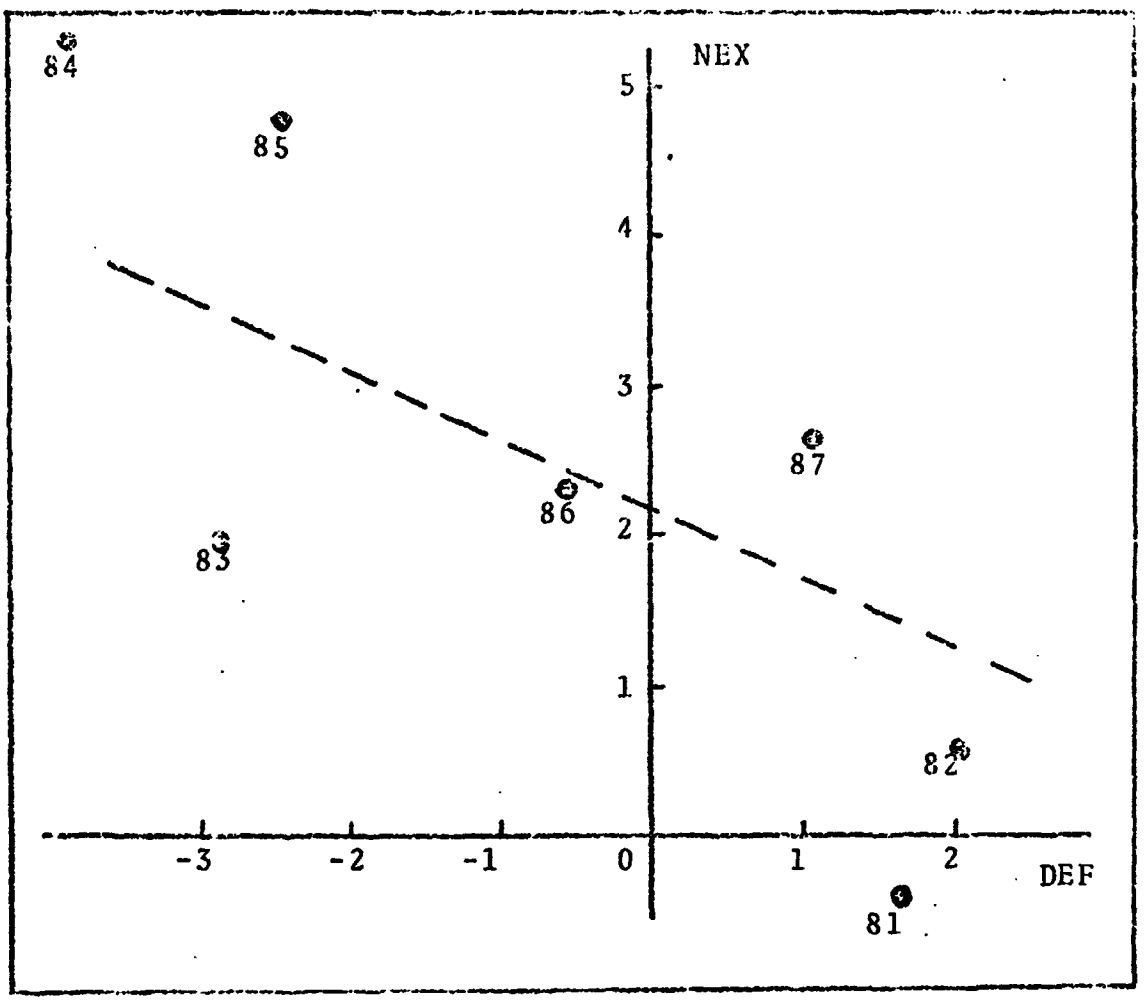


FIGURE 2
INFLATION AND THE REAL EXCHANGE RATE

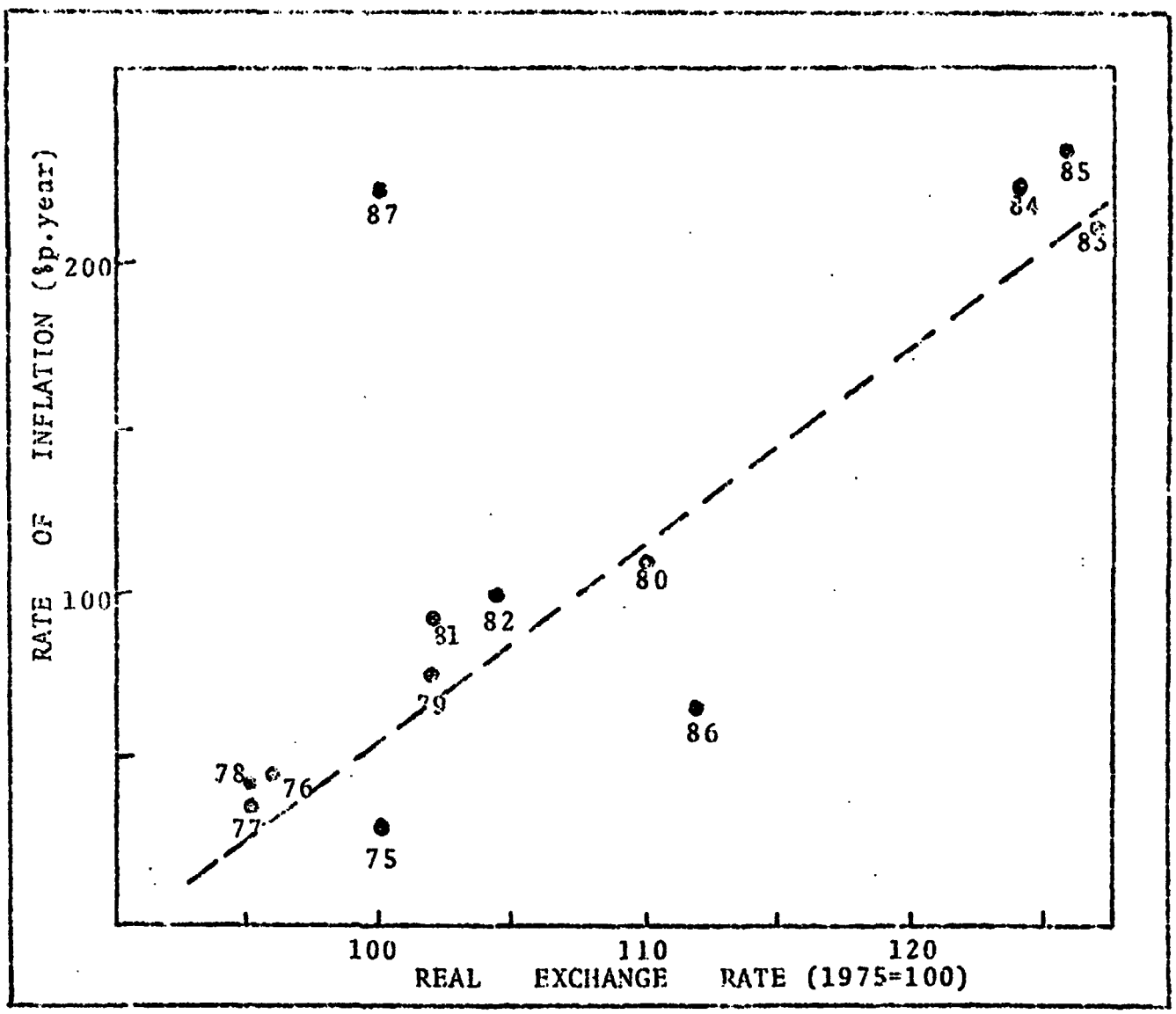
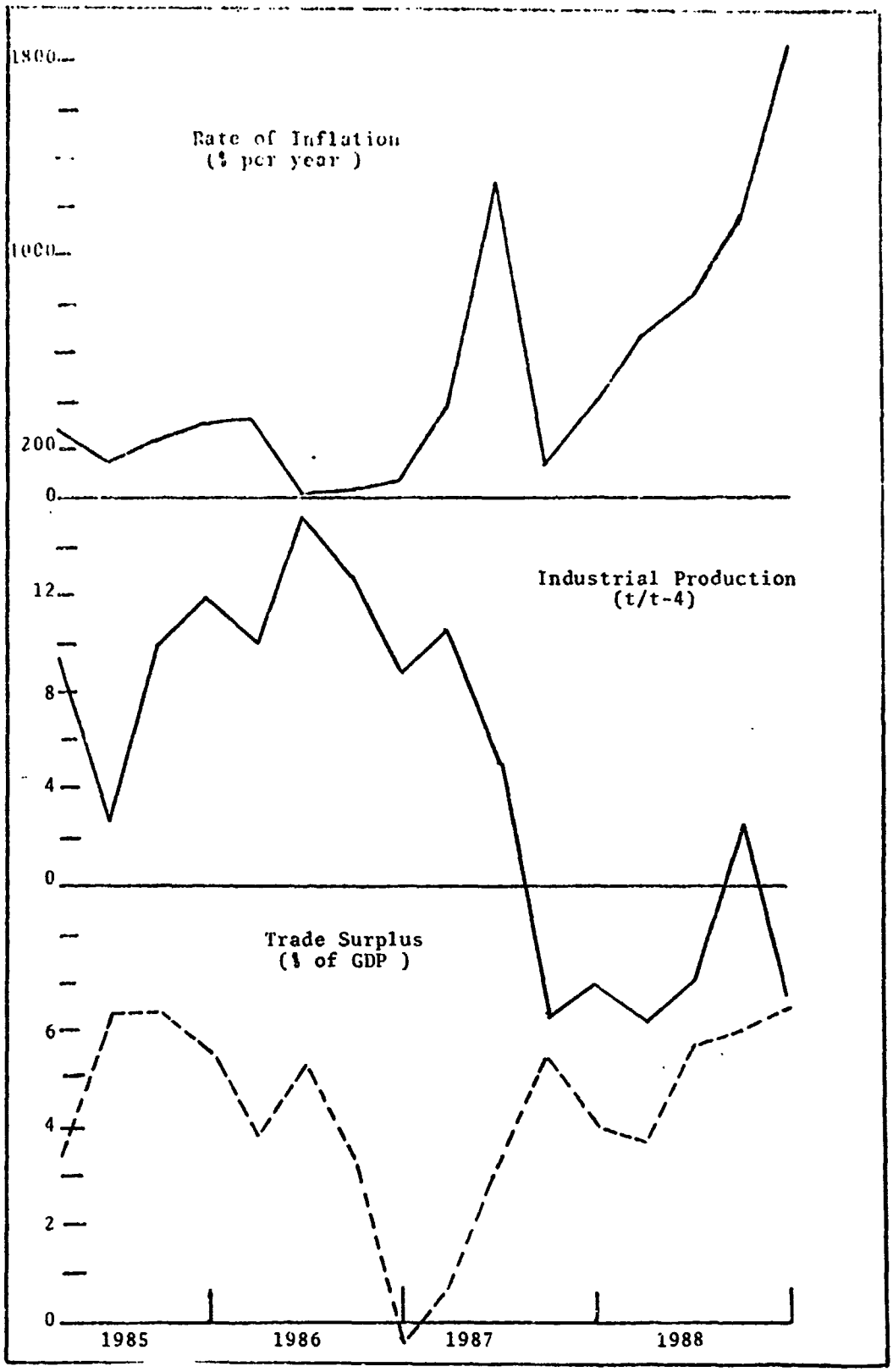


FIGURE 3
BRAZIL: BASIC INDICATORS (1986-1987)



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